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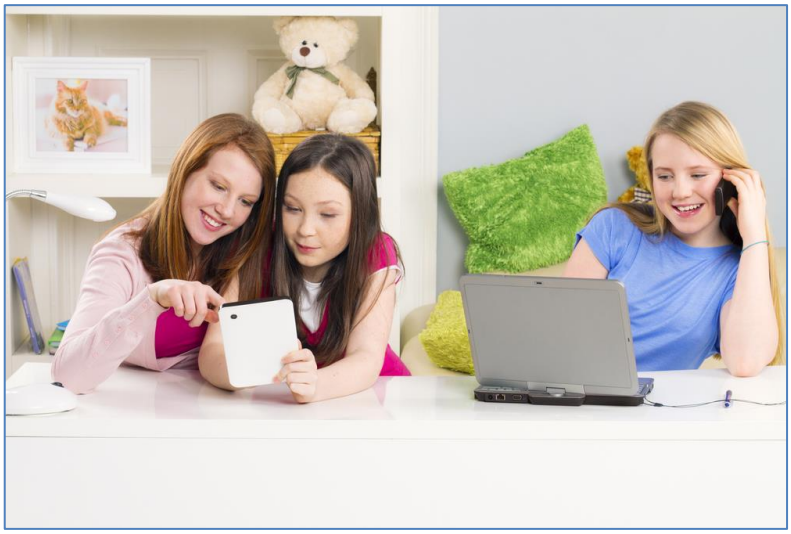
Teenagers' awareness of energy consumption and motivation to save energy



This research is an investigation into teenagers' understanding and awareness of how they consume energy. The aim is to explore attitudes, motivations, and barriers to energy saving that will inform the design of technology enhanced learning experiences about energy.

Key words: teenagers; energy; attitudes; barriers; technology enhanced learning

Key findings

- The majority of participants believed energy consumption is a 'severe and urgent problem'.
- Many teenagers are aware of why energy consumption is an important issue (for example, resource scarcity, climate change), but have no awareness of how these issues will impact on their personal lives.
- There is little awareness of which devices use most energy. For example, mobile phones are thought to use the most energy because they are continually in use.
- There is no awareness that the production, packaging, transportation, and storage of food and other products contribute to energy consumption.
- Teenage participants perceived others (adults, politicians, companies) as not participating in saving energy.
- The most relevant energy consumption to teenagers was: (indirect energy) food and drink and buying electronic devices; (direct energy) lights and personal electronic devices.
- Teenagers cite many resources on energy consumption as potential sources of information, but appear to lack the skills to use them.
- Our findings are unclear on how to motivate teenagers to save energy because the impact of energy consumption appears abstract to teenagers.
- Critically, for the design of any learning technology, motivation to engage in learning by teenagers about energy cannot be assumed.

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What we did

This research is part of a larger project involving 5 UK universities. The project lasted 3 years from 2010 to 2013. It was funded by the Engineering and Physical Sciences Research Council (EPSRC) as part of a programme to understand how to support behaviour change to reduce energy consumption.

The participants in the research carried out at the Institute of Education were 5 groups of teenagers aged 14 to17 years. We worked with these groups during schools hours, in collaboration with their teachers.

How we did it

We used a range of methods. Our research questions and methodology were guided by the Ecology of Resources Design Framework (Luckin, R. (2010) Re-designing Learning Contexts: Technology-Rich, Learner-Centred Ecologies. London and New York: Routledge).

During the initial phases we used photo diaries, which are open-ended and allowed us to explore teenagers' contexts of energy consumption. Based on these initial findings we developed a short questionnaire to assess participants' understanding of why energy consumption is an important issue, how we consume energy, their attitudes to saving energy and their concern about energy related issues. We combined information from individual responses (questionnaire) with group discussions and group activities, in order to understand participants' views in more depth. For example, why are they concerned and how do they believe energy related issues might affect them? We focused to a large extent on what motivates teenagers in relation to energy consumption; we engaged them as co-designers of technology to raise awareness about energy consumption amongst their peers.

Implications

One important implication of our findings is that although teenagers are taught about energy related issues they are not supported to relate this understanding to their personal lives and personal choices. Another implication is that, although teenagers may assume they have access to information (e.g. online) they do not necessarily have the skills and knowledge to access this.

Further information

See also: Avramides, K., Craft, B., & Luckin, R. (2013). Modelling teenage personal contexts to support technology enhanced enquiry into personal energy consumption. *Computers & Education, 69, 377-386*

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